

Case 3188***Nemotois vioellus* Herrich-Schaeffer in Stainton, 1851 (currently *Nemophora violella*; Insecta, Lepidoptera): proposed conservation of the specific name**

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Abstract. The purpose of this application is to conserve the specific name of *Nemophora violella* (Herrich-Schaeffer in Stainton, 1851) for a common and widely distributed European bisexual fairy moth (family ADELIDAE) which is associated with several *Gentiana* species. The name is threatened by the senior synonym *Tinea cupriacella* Hübner, 1819 which (although originally based on a male specimen of what has long been called *N. violella*) for almost 150 years has been frequently used for another (apparently parthenogenetic) species associated with *Scabiosa*, *Dipsacus*, *Succisa* and *Sedum*. The latter species has at present no valid name. However, there has been no consistency in the use of the specific name *cupriacella* and its suppression is proposed both to conserve *N. violella* and because the name is a source of confusion.

Keywords. Nomenclature; taxonomy; Lepidoptera; ADELIDAE; *Nemophora*; *Nemophora violella*; *Nemophora cupriacella*; fairy moths; Europe.

1. Hübner (1819, pl. 67, fig. 445) illustrated a male moth under the name of *Tinea cupriacella*. The name is available under Article 12.2.7 of the Code. The dates of publication of the parts of Hübner's work were set out by Hemming (1937; see particularly p. 214, para. 240 and p. 301 for the date of pl. 67). Hübner's specimen undoubtedly belongs to a bisexual species whose larvae feed on *Gentiana*, which for almost 150 years has been known as *Nemophora violella* (Herrich-Schaeffer in Stainton, 1851, p. 19, published in the combination *Nemotois vioellus*). There was no description of the latter species in Stainton's work but the name was made available by reference to Herrich-Schaeffer's illustrations labelled 'vioellus' (1850, pl. 33, fig. 230, male; fig. 231, female); Herrich-Schaeffer had also illustrated 'cupriacellus' (1850, pl. 31, fig. 220, female; 1851, pl. 37, fig. 252, male). Herrich-Schaeffer's plates carry only specific, and not binominal, names and hence did not make *vioellus* available in 1850; the descriptive text (p. 97) for both *Nemotois vioellus* and *N. cupriacellus* did not appear until 1854 (see Hemming, 1937, p. 588 for the publication dates of vol. 5 of Herrich-Schaeffer's work). Since both the specific name and its application to a taxon were due to Herrich-Schaeffer he is the author (Article 50.1.1 of the Code), but it only became available when combined with *Nemotois* in Stainton's publication. The specific name *violella* has lately been spelled as *vioellus* when in combination with *Nemophora*, but *violella* is correct under Article 31.2.

2. Examination of more than 130 publications, including revisions, faunistic lists and biological notes, shows that the name *Nemophora cupriacella* has been used

inconsistently. Several authors have applied it to an apparently parthenogenetic (female only) species of European fairy moth associated with *Scabiosa*, *Dipsacus*, *Succisa* and *Sedum*, and this use of the name has resulted in considerable confusion in morphological descriptions and in geographical records of the two distinct species involved. Other authors have provided confusing descriptions of male external characters and figured male genitalia which in fact belong to several species.

3. Zeller (1853) confused the parthenogenetic and bisexual species, as can be seen from his note (p. 60) on the absence of males from several localities, and he later (1878, p. 121) suspected the synonymy of the specific names of *Nemophora cupriacella* and *N. violella*. Frey (1856, p. 44) published the description of a male under the name *cupriacella*, but mentioned that specimens from Switzerland were all females. Several authors have stated that males of *N. cupriacella* were unknown (see Wocke, 1874, p. 47; Sorhagen, 1886, pp. 155–156; Disqué, 1901, p. 201; Höfner, 1918, pp. 218–219; Waters, 1929, p. 66; Suomalainen, 1978, p. 65), despite the fact that the nominal species was based by Hübner on a male. However, description of male external features were published by Heinemann (1877, p. 83), Snellen (1882, p. 498), Meyrick (1895, pp. 796–797), Spuler (1910, p. 468), Jacobs (1949, p. 216, pl. 13, fig. 25) and Heath & Pelham-Clinton (1976, p. 294, pl. 13, fig. 7a, which is an incorrectly identified specimen of *N. cuprella* (Denis & Schiffermüller, 1775)). The male genitalia of '*N. cupriacella*' figured by Pierce & Metcalfe (1935, p. 109, pl. 66) are those of an incorrectly determined specimen of *N. fasciella* (Fabricius, 1775); those figured by Küppers (1980, p. 333), who claimed the existence of intermediate forms linking *N. cupriacella* and *N. violella*, are identical to *N. violella* (figured on p. 337). Especially confusing is the work by Zaguljaev (1978), who published clearly different figures of male genitalia for *N. violella* (p. 100, which corresponds to the current understanding of this species) and *N. cupriacella* (p. 99, which is probably an incorrectly determined specimen of *N. fasciella*). Kovács & Kovács (1999) published a figure of male genitalia for *N. cupriacella*, based most probably on an incorrectly identified male of *N. istriana* (Stainton, 1851). Some authors have indicated that they could not confidently discriminate between *N. cupriacella* and *N. violella* (see Zeller, 1878, p. 121 and Sterneck & Zimmermann, 1933, p. 149).

4. The only feature which has been used consistently to distinguish between the bisexual *N. violella* and the parthenogenetic species which has been referred to as *Nemophora cupriacella* is the larval host plants: the first species feeds on *Gentiana* whereas the second feeds on *Scabiosa*, *Dipsacus*, *Succisa* and *Sedum*. However, this consistency has resulted simply from references to earlier works, rather than from the use of reared material, and has not helped authors to correctly identify *N. cupriacella*. For example, none of 56 specimens (including 41 males) which Kovács & Kovács (1999, p. 27) investigated for their revision was reared from a larva; these authors mentioned the host plant of '*N. cupriacella*' (in the sense of the parthenogenetic species) but combined this information with a description of male characters of another species (probably *N. istriana*).

5. In contrast to the inconsistent use of the name *Nemophora cupriacella*, there has been long-standing consistency in the use of the younger name *N. violella* for the bisexual species. None of the authors noted in para. 3 above misidentified *N. violella*.

6. I propose that the specific name of *Nemophora cupriacella* (Hübner, 1819), a senior synonym of *N. violella* (Herrich-Schaeffer in Stainton, 1851), be suppressed.

An alternative would be to propose the designation of a neotype for *N. cupriacella* in the sense of the parthenogenetic species, but this would be inappropriate because the name was not only based on a bisexual species but has been applied to several taxa. The parthenogenetic species will require a new name and formal description (M.V. Kozlov, in prep.) because at present no valid name exists for it.

7. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the name *cupriacella* Hübner, 1819, as published in the binomen *Tinea cupriacella*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
- (2) to place on the Official List of Specific Names in Zoology the name *violellus* Herrich-Schaeffer in Stainton, 1851, as published in the binomen *Nemotois violellus*;
- (3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *cupriacella* Hübner, 1819, as published in the binomen *Tinea cupriacella* and as suppressed in (1) above.

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